

In the Claims

1. (Currently Amended) A method for improving printer characterization to more accurately reproduce desired colors on a destination printing device given the ambient illumination at the location where the printer's output is intended to be viewed, comprising:

- a) producing a target consisting of pairs of metamers, where each pair matches for one illuminant and mismatches for others;
- b) viewing said target under the illumination for which characterization is desired;
- c) selecting a best metameric pair match from said metameric pairs, which estimates said viewing illumination;
- d) entering an indicator of said estimated viewing illumination; and
- e) adjusting the characterization data to correspond to said estimated viewing illumination.

2. (Original) A method for improving printer characterization, as in claim 1, wherein the production of the target comprises:

- a) choosing a base color; and
- b) for each illuminant of interest,
 - determining a metameric match to said base color; and
 - placing said base color adjacent to said metameric match to form a matched pair.

3. (Original) A method for improving printer characterization, as in claim 2, wherein said metameric matched pairs are produced using different colorants.

4. (Currently Amended) A method for improving printer characterization, as in claim 2, wherein determining said metameric matched pairs comprises a re-characterization using differing GCR-grey component replacement algorithms strategies for each illuminant of interest.

5. (Original) A method for improving printer characterization, as in claim 4, further converting said base color to device values, CMYK, using said re-characterization.

6. (Currently Amended) A method for improving printer characterization, as in claim 1, wherein the targets ~~includes~~are either bipartite patches, concentric patches, readability tasks, or half-and-half images.

7. (Currently Amended) A method for improving printer characterization, as in claim 1, further rendering ~~the~~an illumination-determination target on ~~said~~a color reproduction device.

8. (Currently Amended) A method for improving printer characterization, as in claim ~~7~~4, wherein the illumination-determination target ~~for said color reproduction device~~ has been prepared in advance of characterization.

9. (Currently Amended) A method for improving printer characterization, as in claim 8, wherein the illumination-determination target ~~for said color reproduction device~~ is shipped or otherwise provided with said destination printing device.

10. (Currently Amended) A method for improving printer characterization ~~tables~~, as in claim 1, wherein said indicator is entered via a Digital Front End (~~DFE~~) or print driver to the printer.

11. (Currently Amended) A method for improving printer characterization, as in claim 1, further comprising a Graphical User Interface (~~GUI~~) for indicating said estimation of illumination.

12. (Original) A method for improving printer characterization, as in claim 1, wherein each illuminant of interest represented in said illumination-determination target is a profile.

13. (Original) A method for improving printer characterization, as in claim 12, wherein said profile is applied as a result of the indication of illumination.

14. (Currently Amended) A method for improving printer characterization, as in claim 1, wherein said estimated illumination is used to modify said characterization via a pre-transformation or post-transformation.

15. (Original) A method for improving printer characterization, as in claim 1, wherein device values for metameric matches are derived using a cellular Neugebauer model.

16. (Currently Amended) A method for improving printer characterization, as in claim 1, wherein one half of each ~~said~~ matched metameric pairs is produced with black (K) only and the other half is produced with Cyan, Magenta, and Yellow (CMY).

17. (Currently Amended) A method for improving printer characterization, as in claim 16, wherein producing said metameric pairs comprises, for each illuminant of interest,

- a) printing Cyan, Magenta, Yellow, and black (CMYK) sweeps;
- b) measuring color values of said CMYK sweeps;
- c) building gray-balanced Tone Reproduction Curves (~~TRCs~~) based on said measured color values;
- d) inputting a value n into said gray-balanced Tone Reproduction Curves TRCs to determine CMY colorant values; and
- e) inputting said value n into said gray-balanced Tone Reproduction Curves TRCs to determine K colorant value.